

TIDA-00471 Synchronous DC/DC Converter with Inductor on top of IC for Small Footprint

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
PCB	1		Printed Circuit Board		PR2210	Any		
C1, C2, C3, C4	4	22uF	CAP, CERM, 22 µF, 16 V, +/- 20%, X5R, 1210	1210	GRM32ER61C226ME20L	MuRata		
C5, C9	2	0.1uF	CAP, CERM, 0.1 µF, 50 V, +/- 10%, X7R, 0603	0603	GRM188R71H104KA93D	MuRata		
C6	1	100uF	CAP, AL, 100 µF, 16 V, +/- 20%, 0.26 ohm, SMD	SMT Radial D	EEEEFP1C101AP	Panasonic		
C7	1	4.7uF	CAP, CERM, 4.7 µF, 25 V, +/- 20%, X5R, 0805	0805	GRM21BR61E475MA12L	MuRata		
C8	1	1uF	CAP, CERM, 1 µF, 50 V, +/- 10%, X7R, 0603	0603	UMK107AB7105KA-T	Taiyo Yuden		
C10	1	1500pF	CAP, CERM, 2200 pF, 50 V, +/- 10%, X7R, 0603	0603	GRM188R71H222KA01D	MuRata		
C11	1	0.1uF	CAP, CERM, 0.022 µF, 50 V, +/- 10%, X7R, 0603	0603	GRM188R71H223KA01D	MuRata		
C12, C13, C14, C15, C16	5	100uF	CAP, CERM, 100 µF, 6.3 V, +/- 20%, X5R, 1210	1210	GRM32ER60J107ME20L	MuRata		
C19	1	1000pF	CAP, CERM, 1000 pF, 50 V, +/- 10%, X7R, 0603	0603	GRM188R71H102KA01D	MuRata		
H1, H2, H3, H4	4		Bumpon, Hemisphere, 0.44 X 0.20, Clear	Transparent Bumpon	SJ-5303 (CLEAR)	3M		
J1, J3	2		Terminal Block, 4x1, 5.08mm, TH	TERM_BLK, 4pos, 5.08mm	ED120/4DS	On-Shore Technology		
J2	1		Header, 100mil, 2x1, Tin, TH	Header, 2 PIN, 100mil, Tin	PEC02SAAN	Sullins Connector Solutions		
J4	1		Header, 100mil, 4x2, Tin, TH	Header, 4x2, 100mil, Tin	PEC04DAAN	Sullins Connector Solutions		
J5	1	2x8	Header, 100mil, 8x2, Gold, TH	PBC08DAAN	PBC08DAAN	Sullins Connector Solutions		
J6	1		Header, 100mil, 2x2, Tin, TH	Header, 2x2, 2.54mm, TH	PEC02DAAN	Sullins Connector Solutions		
L1	1	{Value}	Inductor, Toroid	TBD	TBD	TBD		
LBL1	1		Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650"H x 0.200"W	THT-14-423-10	Brady		
R1	1	147k	RES, 147 k, 1%, 0.1 W, 0603	0603	CRCW0603147KFKEA	Vishay-Dale		
R2	1	0	RES, 0.5% 0.1 W, 0603	0603	CRCW0603000Z0EA	Vishay-Dale		
R3, R17	2	200k	RES, 200 k, 1%, 0.1 W, 0603	0603	CRCW0603200KFKEA	Vishay-Dale		
R4	1	1.00k	RES, 1.00 k, 1%, 0.1 W, 0603	0603	CRCW06031K00FKEA	Vishay-Dale		
R5, R9, R15	3	100k	RES, 100 k, 5%, 0.1 W, 0603	0603	CRCW0603100KJNEA	Vishay-Dale		
R6	1	2.05	RES, 2.05, 1%, 0.1 W, 0603	0603	CRCW06032R05FKEA	Vishay-Dale		
R7	1	1.5k	RES, 14.7 k, 1%, 0.1 W, 0603	0603	CRCW060314K7FKEA	Vishay-Dale		
R10	1	43.2k	RES, 14.7 k, 1%, 0.1 W, 0603	0603	CRCW060314K7FKEA	Vishay-Dale		
R8	1	3.01	RES, 3.01, 1%, 0.125 W, 0805	0805	CRCW08053R01FKEA	Vishay-Dale		
R11	1	10.0	RES, 10.0, 1%, 0.1 W, 0603	0603	CRCW060310R0FKEA	Vishay-Dale		
R12	1	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale		
R13	1	39.2k	RES, 39.2 k, 1%, 0.1 W, 0603	0603	CRCW060339K2FKEA	Vishay-Dale		
R14	1	187k	RES, 187 k, 1%, 0.1 W, 0603	0603	CRCW0603187KFKEA	Vishay-Dale		
R16	1	619k	RES, 619 k, 1%, 0.1 W, 0603	0603	CRCW0603619KFKEA	Vishay-Dale		
R19	1	475k	RES, 475 k, 1%, 0.1 W, 0603	0603	CRCW0603475KFKEA	Vishay-Dale		
R20	1	866k	RES, 866 k, 1%, 0.1 W, 0603	0603	CRCW0603866KFKEA	Vishay-Dale		
R21	1	309k	RES, 309 k, 1%, 0.1 W, 0603	0603	CRCW0603309KFKEA	Vishay-Dale		
R22	1	124k	RES, 124 k, 1%, 0.1 W, 0603	0603	CRCW0603124KFKEA	Vishay-Dale		
SH-J4, SH-J5, SH-J6	3	1x2	Shunt, 100mil, Gold plated, Black	Shunt	969102-0000-DA	3M	SNT-100-BK-G	Samtec
TP1, TP5, TP9	3	Red	Test Point, Miniature, Red, TH	Red Miniature Testpoint	5000	Keystone		
TP2, TP3, TP7, TP12	4	Black	Test Point, Miniature, Black, TH	Black Miniature Testpoint	5001	Keystone		
TP4, TP6, TP8, TP10, TP11	5	White	Test Point, Miniature, White, TH	White Miniature Testpoint	5002	Keystone		
U1	1		High-Efficiency 30 A Synchronous Buck Converter with Eco-mode, DQP0022A	DQP0022A	TPS53355DQPR	Texas Instruments		Texas Instruments
C17, C18	0	330uF	CAP, TA, 330 µF, 6.3 V, +/- 20%, 0.025 ohm, SMD	7.3x2.8x4.3mm	6TPE330MAL	Panasonic		
FID1, FID2, FID3, FID4, FID5, FID6	0		Fiducial mark. There is nothing to buy or mount.	Fiducial	N/A	N/A		
R18	0	100k	RES, 100 k, 5%, 0.1 W, 0603	0603	CRCW0603100KJNEA	Vishay-Dale		

Notes:

Unless otherwise noted in the Alternate PartNumber and/or Alternate Manufacturer columns, all parts may be substituted with equivalents.

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